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AT HOME WITH THE RANGE: THE AMERICAN COOKING STOVE, 1865-1920

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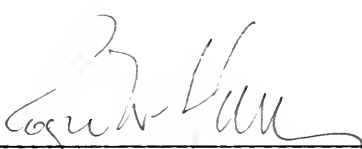
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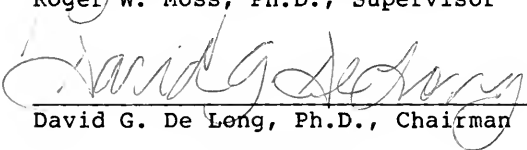
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INTRODUCTION

The cookstove is one of those mundane objects with an ostensibly humdrum history that too often has escaped historical analysis. Its major chroniclers are two groups with apparently little in common: social historians who concentrate on women's history and those with a more personal, often nostalgic, interest in old stoves. The former are generally interested in technical evolution only as it influenced women's thought and activity; the latter tend to focus on useful concrete details without integrating them more broadly into their historical and architectural background. There are, of course, historians of technology and housing (notably Siegfried Giedion, Gwendolyn Wright, David P. Handlin, and Ruth Schwartz Cowan) who treat cookstoves more comprehensively but within the context of much larger studies.

The American cooking stove -- which is not to be confused with parlor stoves or other stoves intended primarily for heating -- fills a unique role in linking technology and culture. This increasingly complex appliance was managed almost exclusively by women, traditionally not a technologically-oriented segment of the population. More important, it filled a dual and interrelated role as both the hub of traditional household operation and a cultural icon representing

family stability and warmth. The household revolved about the stove, which in earlier years provided warmth and hot water for cleaning, as well as cooking meals. Modern researchers are not the first to seize upon the wider implications of homey details. E.C. Gardner wrote in Homes and How to Make Them (1874), "From potato-washing to architectural design the distance is great, yet there are possible steps, and easy ones too, leading from one to the other." ¹ Ruth Schwartz Cowan echoes this sentiment when explaining why technological changes associated with housework constitute a real "industrial revolution," one that is "no less destructive of traditional habits than the change [for example] from manual to electric calculating." ²

The evolution of kitchen technology is particularly intriguing, however, because of its slow rate of change. While acknowledging the extent of its influence, we must remember that it remains a most conservative and disorganized "industry". Thus any changes in tools and methods are spread over a long period, and their causes and effects often obscured by events and issues with only a peripheral relation. In the case of cooking stoves, no new development in fuel or machinery ever "swept" the market. A cook or housewife skilled in the eccentricities of her coal-burning cast-iron range would be hesitant to abandon it until she was sure she could cook

as well with gas or electricity. Instead, different stoves came into use as new homes were built, as inventions were tested and proven, and as social changes introduced more housewives to practical housekeeping.

A chronology of the cooking stove thus becomes a wide-ranging survey of factors that influenced its manufacture, purchase and use. These include social history, the development of advertising, and the history of residential architecture, as well as the history of the stove itself. To limit these expansive topics to a reasonable scope, I have concentrated on the period from 1865 to 1920. This period is one of gradual but definitive change, beginning when the cast-iron stove is well established and ending before the decade of "the most drastic changes in patterns of housewold work." ³ The first chapter introduces the technological history of the stove. The next explores its existence as a machine and object in the home. The third treats the cookstove in its physical context, including the question of who actually operated the stoves, the stove as an element in kitchen design, and the kitchen as an evolving element in changing residential architecture. The last chapter examines the evolving methods of marketing the cookstove in America, including strategies that both reflected and influenced the people who selected, bought and used stoves.

NOTES TO INTRODUCTION

¹ E.C. Gardner, Homes, and How to Make Them (Boston: 1874), p. 208.

² Ruth Schwartz Cowan, "The 'Industrial Revolution' in the Home: Household Technology and Social Change in the 20th Century," Technology and Culture 17 (January 1976), p. 9.

³ Ibid., p. 4.

CHAPTER ONE: A Cookstove Chronology, 1865-1920

Section 1: Domestic Technology

The ability of a manufacturer to market successfully new and even radically different household appliances depends on the willingness of the average householder to welcome the new technology. Thus the general American attitude in the period 1865-1920 toward technological change and domestic technology in particular colored and defined the history of the stove. Even the pride and enthusiasm with which Americans celebrated progress could not produce immediate changes in domestic habits.

The force of modernity prevailed in the long run. Stove manufacturers promoted the wonders of these products of the marvelous new machine age. The Keeley Stove Company of Lancaster, Pennsylvania, was one of those that were proud to have their stoves exhibited at the World's Columbian Exposition in Chicago in 1893. [Fig. 1] They said the name of their line, Columbian, was "in harmony with the spirit and tenor of the year in which our catalog is issued...."¹ Many stove manufacturers (who made parlor stoves and often furnaces as well) proudly pictured their factories in the pages of the trade catalogs they published. [Fig. 2] Descriptions of the plants boast of acreage, modern machinery, and efficiency.

Those who were to buy and use the stoves had less reason to celebrate these technological advances, especially in the mid-19th century. Home life for the family in general would alter little with the acquisition of a stove, however revolutionary, and only the middle class would be quick to take advantage of newer products. The poor had little money to spare for inessential gadgetry, and the wealthy had servants to bear the household drudgery; appeals of convenience held little allure for employers.² While there were always those such as Catharine Beecher, who at mid-century encouraged women to be active and shoulder responsibility for their own households' organization and work, a more widespread change took place in the last decade or so of the century. The quicker and more mechanized pace of life made Beecher's ideas of efficiency the root of new progressive movements, including "domestic science" or "domestic engineering." Efficiency and modernity became the hallmarks of the kitchen and allusions to the technological era were explicit: "As the chief workshop of the house, the kitchen should be fitted up and furnished precisely as an intelligent manufacturer would fit up his factory."³

This enthusiasm for up-to-date home technology extended well beyond the kitchen to the house in general and even to social theory. Gwendolyn Wright sees the technological

spirit linked to an accompanying concern with morality, the two combining to hasten social progress in the early twentieth century. She states, "New domestic technology was central to the aesthetic and cultural redefinition of the modern home. The systems ... regulated its temperature, air and light and supplied it with power and services." ⁴

The gospel of technological progress, however, left some Americans doubtful. Even in the mid-nineteenth century, the open hearth in the kitchen had not completely disappeared, and its image and habits lingered much longer. The simple mechanics of the fire were relinquished to the new, scientific engineers of stove design. "Many technical devices and improvements better understood by the thermodynamics engineer than the cook ... provided hotter, longer-lasting, less smoky, and more fuel-efficient fires." Thus convenience arrived hand in hand with technological alienation. While improvements mounted from specialized coal stove attachments to futuristic experiments with electricity, many remained wary of too great a dependence on modern technology. ⁵ When Laura Ingalls Wilder, author of the "Little House" books about her life on the western prairie in the late 19th century, wrote about technology, she articulated this view:

"If only I had some grease I could fix some kind of a light," Ma considered. "We didn't lack for light when I was a girl, before this new-fangled kerosene was ever heard of."

"That's so," said Pa. "These times are too progressive. Everything has changed too fast. Railroads and telegraph and kerosene and coal stoves -- they're good things to have but the trouble is, folks get to depend on 'em." ⁶

Nostalgia grew from this attitude. The evocative symbol of the fireplace remained visible in many places, becoming more powerful as the real object faded from use. In 1893, Ivory Soap sponsored a poetry competition; their advertisement in the Ladies Home Journal featured an example entitled "A Kitchen Evening," illustrated with a romantic sketch of an open hearth. Even more striking is the cover of a coal stove trade catalog, which pictures a pot on an open hearth, entitled "Ye Olde Way." This tactic enabled Isaac A. Sheppard and Company to attract buyers with a nostalgic illustration, while simultaneously pointing out the greater convenience of the modern way.⁷ This combination of ideals was also visible in the names given to kitchen ranges by the manufacturers. The names, which reflected the size and operation of each model, promoted images of power, reliability, neatness, and comfort: the warmth of the hearth powered by modern technology. The J.L. Mott Company featured the Saint George (complete with knight and dragon on the oven doors), [see Fig. 10] the Defiance, Imperial, Empress, and Duchess, among others. The Sears, Roebuck "Acme" line included the Hummer, Triumph, and Progress models. The range of names was

considerable, and many, such as Plato, Choice, and Cappello, had little meaning other than an attractive sound. ⁸ Thus kitchen technology, however attractive, could benefit as well from nostalgic images.

Section 2: Mechanics of the Cookstove

The cooking stove as a distinct mechanical entity has existed since the early years of the nineteenth century. Basically it concentrates the heat and directs combustion gases to appropriate and efficient places for cooking. It is essentially a problem in physics that has occupied numerous inventors. Among the first was Benjamin Thompson, the Count von Rumford (1753-1814). He is credited with perfecting the range (so called because of the burners, or boiler holes, "ranged" along the top). He separated the functions of heating and cooking formerly combined at the hearth and produced a cast-iron stove that had its fire in a suspended grate beneath a pot surrounded by air space. This tactic both confined the heat source and made more air available to it. Von Rumford's range was U-shaped and built of brick. Each boiler hole on top corresponded to one of a row of small fireplaces along the bottom. ⁹

The cast-iron range, which burned wood or coal, had evolved from the 18th-century Dutch stove of cast-iron plates. The new range expanded with the addition of a

special grate, an ash chest, and a roasting oven on one side. Another inventor, Philo Penfield Stewart, patented the cast-iron Oberlin Stove, a most successful venture, in 1834. It became the base of the "technified" range with an array of specialized options. ¹⁰ These earliest American stoves began to establish themselves in the 1830s. By the 1840s, they were less of a novelty and had settled into the form of standardized kitchen units, which tended to be moveable and sit upon stubby iron legs. ¹¹ [Fig. 3] These ranges replaced the miscellaneous array of boiler holes for stove-top cooking, tin reflecting ovens for roasting before the fire, and brick-lined baking ovens in the wall beside the hearth. ¹² A trade catalog author, looking down from the lofty technological heights of 1892, recalled that American cooking stoves had "originated among the lowly ... their inventors had never trained themselves, nor been trained in any art or science, ... they borrowed their ideas from the 'Baking Pan' and 'iron box'."¹³

Though the inventors had probably not been quite so lowly as that, it is certain that stove improvements multiplied quickly. The main problem was heating the oven and boiling water simultaneously, and most early stove makers tried to put the oven directly over the fire. The Littlefield Stove Company claimed that their Premium Stove was the

first to relocate the oven lower, behind the fire-box, while retaining two boiler holes on top. The step stove, so called because the elements were ranged in horizontal steps, came next. This model had the oven raised to receive heat from beneath the pots and kettles. Next, the oven was extended below the fire-box, and the single flue around the oven became two or three flues. Many such adjustments, alterations, and additions proliferated throughout the nineteenth century, many owing as much to fashion as to mechanical improvement. The cast-iron stove, while undeniably convenient, presented a continuing problem in that it did not absorb moisture as a brick oven would. The endless experimentation with placement, currents, and flues sought to remedy the problem.¹⁴ Once the oven was in place, the hot water reservoir cantilevered on the side of the stove was the last element to complete the traditional cookstove.¹⁵ [Fig. 4]

These variations on the cast-iron range continued into the twentieth century. The coal-burning range persisted well past the introduction of the gas range in the 1880s, either because some areas were slow to receive gas, the stoves were well-built and lasted a long time, or cooks preferred coal. The electric range, in turn, did not gain a significant foothold until the rural electrification programs of the 1930s. The coal burning stove was quite similar to the wood-burning stove and operated on the same principles. In fact,

many stoves could burn both. The J.L. Mott Ironworks in 1882 advertised a small number of wood stoves, generally smaller and simpler than their coal-burning models. Even as late as 1905, Sears sold models for wood only, with names like Pioneer, Kenwood and Redwood, aimed at markets where wood was a cheaper, more plentiful fuel.¹⁶

Coal was nevertheless a more popular fuel, especially in the cities, where it was cheaper and more readily available. It burned longer, making less work for the cook tending the stove, and because of its higher density, was lighter to handle in the long run. Coal came in several forms: anthracite, or hard coal; bituminous, or soft coal; and coke. While some stoves were made for coal alone, most could handle hard or soft coal, coke, or wood. Some primarily coal stoves could be ordered with "wood fixtures" or could convert to wood-burning by reversing the grate and removing the end coal lining.¹⁷

An early innovation was James Spear's "Gas-Consuming Cooking Stove." A forerunner of the later true gas stoves, this was a coal stove, in which air was introduced over the fire and the combustion flowed around the oven. [Fig. 5] Spear, who manufactured the stoves in Philadelphia in the mid-1860s, explained that the novelty lay in "the burning of the Gas arising from the Coal, by which means is saved 50 per

cent of fuel, and a more intense heat is thrown to the bottom of the oven." 18 The stove was noticed in Godey's Lady's Book of 1866 as being recommended by a former missionary in China; the

late Bishop Boone had found these stoves ... of great service in Shanghai, where the dampness of the climate requires, at all seasons, artificial heat in the house. The bishop took personal interest in their introduction -- parlor as well as cooking-stoves -- into China, where Mr. Spear now has an agent for the sale of these stoves. 19

World War I marked the end of the coal stove's prominence. After that time the Ladies Home Journal had no more ads for wood and coal stoves; nor were its articles concerned with their operation. By 1935, only five per cent of American homes valued over \$2,000 still cooked by wood or coal. 20

Kerosene oil was another option for fueling stoves; it became available after the Civil War, but was never the most desirable fuel. Its manufacturers had to battle the "deep-seated prejudice ... that disagreeable smoke and odor must necessarily accompany the using of kerosene oil for heating and cooking purposes." On the other hand, it was always an inexpensive option, and many manufacturers advertised its possibilities. The Adams and Westlake Company of Chicago advised in 1884 their stoves could "readily be converted from an Oil to a Gas or Gasoline stove, or vice versa." 21

Gasoline or gas vapor was another minor alternative for fuel. The manufacturers boasted that it "Lights like Gas," "Bakes Better and Costs Less than any Coal or Wood Range," and, in 1894, that it was used in "more than a Quarter of a Million Homes in the United States." ²² A 1905 Sears, Roebuck catalog detailed its mechanical process:

In operation, the fluid drips drop by drop (never runs) on the perforated brass evaporator, where it is divided into fine particles, which, passing through the air, evaporate; the vapor thus made being heavier than air, passes down through the evaporator tubes mixing with and carbur-
etting a current of air, which is lighted at the burner, producing a smokeless blue flame of a great intensity and heating power.²³

Another, more popular fuel in the late 19th century was gas. Little natural gas was available until the 1920s; almost all "gas" was manufactured by burning coal and consisted primarily of methane. Nevertheless, as early as 1903, the makers of Detroit Jewel Gas Ranges noted in their catalog that "Ranges for Manufactured Gas [are] shipped unless Natural Gas is specified." ²⁴ The technology for gas stoves had been available since mid-century, but manufacturers had to struggle to insinuate their product into the public favor. It was not until the 1890s that they made much headway. Even in 1896, the Maryland Meter and Manufacturing Company lamented, "The work of introducing gas cooking ranges

to the public is one of much effort, owing to the popular fallacy that its use is accompanied by great expense, and that the viands so cooked are tainted by gas." Rather, they protested, it was convenient, clean, and economical; it caused meat to lose less of its weight, and produced larger loaves of bread. The manufacturers even backed their promises with a table of cost comparison. ²⁵ The American Meter Company printed in their advertising an award from the St. Louis Agricultural and Mechanical Association, announcing that "we consider that their stoves give the least trouble from odors and deleterious gases." ²⁶

Given such material objections, it is little wonder that gas did not replace coal and wood as fuel on a large scale until the turn of the century, lagging far behind the use of gas for lighting. It did come into favor as an alternative fuel, especially in the summer, since it did not require the constant fire of a coal stove. Such preferences made combination ranges that used both coal and gas popular. Finally, as gas use became established, other forces encouraged the change. In 1912-13, gas companies and appliance manufacturers sponsored a national advertising campaign to promote gas use. ²⁷

Even as the general conversion to gas got underway, electricity, the most revolutionary and novel means of power, was introduced. Its acceptance took far longer, however; it

never really became popular until the 1920s, and a discussion of its use is beyond the scope of this study. Most people treated the first suggestions of cooking with electricity as a fantasy. The first practical experiments in its use were made in England around 1890, and there was an electrical fair in the Crystal Palace in 1891. In 1893, its culinary potential came to America: "Many visitors to the Columbia Exposition at Chicago got their first glimpse of cooking by electricity in the section of the electrical building which showed the domestic work of this modern genie." ²⁸ The exhibit included an oven, broiler, and kettles. [Fig. 6] Despite the strong impression it made, electricity had several drawbacks to domestic acceptance. First, it was expensive, although a few electric producers provided it more cheaply for cooking than for lighting. Second, it seemed almost too easy; that is, it left the housewife with (comparatively) nothing to do, a source of social upset. ²⁹ Although various studies had praise for the new power and its efficiency (an official of the Central Electric Heating Company of New York estimated electric cooking to be 3.3 times more efficient than coal), its real success would come much later. A 1929 analysis of American cooking methods showed the relative popularity of the various fuels: ³⁰

Gas (manufactured)	9,500,000	families
Gas (natural)	3,470,000	"
Coal and wood	8,290,000	"
Oil	6,000,000	"
Electricity	725,000	"

Clearly, the transition between technologies was gradual. The reasons for the change are not always apparent from viewing the technology alone. The next section will examine the three major stove types from the viewpoint of those who used them.

A last, but very important, technological element of the cookstove was its relation to the various mechanical systems of the American house. Quite often it played a significant role in heating, ventilating, laundry and bathing. Heating was the function most often discussed. Catharine Beecher made a detailed analysis of the most efficient way to heat a house in 1869. In it, an exhaust shaft fed into the kitchen stovepipe, creating a draft. She put non-conducting summer casings on the stove, and derived warm air from the stove-room itself, with added moisture from the water boiler. This system connected basement furnace, Franklin stoves, and the kitchen range in a central system based on convection.³¹

Most writers, often advertising a particular range, were far less elaborate in their suggestions. Isaac A. Sheppard and Company, after praising the cooking prowess of their range, said it "does all this, and heats a room upstairs

besides ... The air passages around the fire-pot are so large that as constant a volume of hot air is furnished by this as a 6-inch pipe will carry away. This is ample to heat an upstairs room 10 x 12 feet, with an ordinary ceiling." ³²

Ventilation was a subject of intense interest throughout the period. E.C. Gardner wrote in Homes, and How to Make Them (1874), "Direct radiation from stoves, or other heating apparatus, except open fireplaces, is ... economical of fuel, but ... unless abundant ventilation is provided, the atmosphere in rooms thus warmed soon becomes unfit for respiration."

Maria Parloa, a prolific writer on domestic science in the late 19th century, discussed another issue, that of isolating kitchen odors. She counseled, "when expense need not be taken into account, it will be well to have the kitchen chimney entirely separate. This is one of the best ways to prevent all the odors of cooking from reaching other rooms." ³³

Given the expense of heating the large houses of the late 19th century, ranges that could be used to heat as well as cook made the extra feature a selling point. Trade catalogs made note of the ranges that were "constructed for Heating as well as Cooking." The manufacturers of Bartlett's Superior Cooking Ranges said, "We guarantee to heat an ordinary size room without destroying the baking qualities of the Range." An oil stove, the Florence, converted from a cooker

to a heater by changing a drum or cylinder, which also served as a portable lamp. [Fig. 7] Some manufacturers were more ambitious in their suggestions. The Mt. Penn Stove Works diagrammed a system whereby a hot water boiler attached to their stove would connect by pipe to radiators in every room of the house. ³⁴

Hot water did far more than heat Victorian households. It was a necessity for bathing, cleaning, and laundering. Water for all these uses had to be heated by the stove, and the specter of running out of hot water was constant. Moreover, a stove hot enough to boil so much water would be too hot to use for cooking. The truly well-equipped house would have a laundry stove as well, but for many homes the kitchen stove had to serve all needs. Manufacturers, of course, considered themselves quite equal to the task. One company assured buyers in 1914 that their stove "will supply All the hot water wanted for from 2 to 5 BATHROOMS" ³⁵

As the technology available to manufacturers grew and the tasks assigned to cooking stoves expanded accordingly, stove makers developed imposing technical resources and a confusing variety of specialized and patented features for their stoves. First, the early "stove-makers" gave way to technicians with training in physics and engineering. Their work was a respectable part of the World's Columbian Exposi-

tion, a fair with a good share of technological marvels. Making it clear that they had gone beyond crafts, manufacturers proudly described their standardized, interchangeable parts. Sears assured customers that it could replace any broken part. Moreover, manufacturers stood behind more than just a functioning range. Besides making furnaces, heaters and cooking implements of all sizes and capacities, they invented and patented special features from oven doors to the special "Duplex" ash grate that required little effort or inconvenience to clean. ³⁶

The structure of the oven received as much, if not more, attention than its more visible features. Cast-iron construction gave way to steel by the turn of the century, making the stove lighter and less brittle. It was, in addition, more suited to large-scale central production. The various steels and their special finishes provided yet another opportunity to boast of technological advancement. The Malleable Range of 1898 "utilized a combination of malleable iron and steel to give tensile strength and prevent burn-out or crystallization of the metal." Sears gave a detailed description of their asbestos-lined steel plate, featuring either black enamelled or blue polished steel. ³⁷ In this way, the manufacturers propelled much of the technology that changed stoves over the years. Equally their rhetoric often puffed out "improvements" beyond their actual influence.

Understanding the technological evolution of stove materials makes it possible to follow the ways in which the various types of stoves affected domestic operations.

NOTES TO CHAPTER ONE

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² Anthony N.B. Garvan, "Effects of Technology on Domestic Life, 1830-1880," in Technology in Western Civilization, ed. by Melvin Kranzberg and Carroll W. Pursell, Jr., vol. 1 (New York: Oxford University Press, 1967), pp. 9, 546.

³ E.C. Gardner, Homes, and How to Make Them (Boston: 1874), p. 211.

⁴ Gwendolyn Wright, Moralism and the Model Home (Chicago: University of Chicago Press, 1980), pp. 25, 235.

⁵ David P. Handlin, The American Home: Architecture and Society, 1815-1915 (Boston: Little, Brown and Company, 1979), pp. 478-79; Susan Strasser, Never Done: A History of American Housework (New York: Pantheon Books, 1982), p. 38; Gwendolyn Wright, Moralism and the Model Home, p. 21.

⁶ Laura Ingalls Wilder, The Long Winter (New York: Harper and Row, 1953), pp. 192-3.

⁷ Gwendolyn Wright, Moralism and the Model Home, pp. 31-2; Ladies Home Journal X no. 11, (October 1893), p. 33; Isaac A. Sheppard & Company, "Perfect Cooking" (Philadelphia and Baltimore, [1880?]), n.p.

⁸ J.L. Mott Iron Works, "Illustrated Catalogue of Kitchen Ranges, Fire Place Heaters and Hot Furnaces Suitable for all Sizes and Styles of Buildings" (New York: 1882), passim; Sears, Roebuck and Company, "Book of Stoves," 2nd edition (Chicago: 1905), passim; Keeley Stove Company, 1893, passim.

⁹ Siegfried Giedion, Mechanization Takes Command (New York: Oxford University Press, 1948), pp. 529-31; Handlin, p. 477; Linda Campbell Franklin, From Hearth to Cookstove (Florence, Alabama: House of Collectibles, 1976), p. 135.

¹⁰ Giedion, pp. 533-35.

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14 Ibid., pp. 15-20.

15 Carlisle, p. 39.

16 Mott, p. 5; Sears, p. 642.

17 Strasser, p.41; Sears, p. 642; Keeley Stove Company, 1893, p. 23; Stratton and Terstegge, "Burning Facts," (n.p., 1898), p.2.

18 James Spear, "Spear's Gas Burning Cooking Range" ([Philadelphia], 1867), p. 1.

19 Godey's Lady's Book, 72 (January 1866), p. 92.

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23 Sears, p. 675.

24 Detroit Stove Works, "Detroit Jewel Gas Ranges Catalog No. 74" (Detroit: 1903), passim.

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27 Sill Stove Works, "The New Sterling Range" (Rochester, NY: 1895), p. 9; Strasser, p. 72.

28 Estelle M. Merrill, "Electricity in the Kitchen", American Kitchen Magazine 4 (November 1895), p. 60.

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30 Merrill, p. 62; Lawrence Wright, p. 167.

31 Catharine E. Beecher and Harriet Beecher Stowe, The American Woman's Home (New York: 1869), pp. 66-68; Strasser, p. 153.

32 "Perfect Cooking", p. 5.

33 Gardner, p. 266; Maria Parloa, "A Model Kitchen," in Shoppell's Modern Homes 1 (1886), p. 148.

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35 David Katzman, Seven Days a Week: Women and Domestic Service in Industrializing America (New York: Oxford University Press, 1978) p. 124; Abram Cox Stove Company, "Novelty Stoves and Ranges," catalog 65B (Philadelphia and Chicago: 1914), p. 8.

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37 Strasser, p. 38; Carlisle, p. 39.

CHAPTER TWO: The Stove as a Household Object

Section 1: The Coal Stove

When Catharine Beecher wrote

Every woman should be taught the scientific principles in regard to heat, and then their application to practical purposes, for her own benefit, and also to enable her to train her children and servants in this important duty of home life on which health and comfort so much depend,

she was unlikely to see her wish realized.¹ Although the entire household economy revolved about the cookstove when she wrote, few women were interested in its "scientific principles." The situation was similar to that of the modern automobile: everyone needs and uses it, some understand its operation thoroughly, and many more concern themselves solely with how it looks and operates. So it was with the cookstove. Everyone, except perhaps the loftiest of the upper classes, was familiar with the appearance and general operation of the hub of the kitchen; everyone recognized its central importance to the smooth production of domestic comforts. Of course, women's experience with stoves ranged from that of professional cooks to ladies of leisure. The following discussion of operation uses the work "cook" with intentional vagueness; for the present purpose it does not matter who was

cooking. The matter is examined more fully in Chapter Three. The central importance of the cooking stove produced a fundamental and lasting domestic image. In the case of the coal stove, with a more assertive size and presence, the image was most powerful. One woman recalled that in her girlhood, "she liked to [work] there at the kitchen table with the big coal range rustling and breathing like another person, a huge strong quiet person in the room."² Such nostalgic evocations recall little of the unrelenting work involved in tending a coal stove. Sometimes it was made even harder by women who never fully mastered its workings. Regardless of the relative success of the education campaigns of those such as Catharine Beecher, the everyday use of the stove continued to monopolize most cooks' concerns. The coal stove demanded a continuous daily ritual to ensure that it was warm enough at all times for the necessary cooking without wasting too much fuel.

Directions for the proper way to tend a coal stove appeared in innumerable articles and advertisements as long as coal was in widespread use. Seemingly, everyone needed instruction, and instructors repeated how simple the problem really was. Maria Parloa articulated the

general principles [which] are these: to have a free draught, causing the fuel to burn easily and quickly, and to have dampers that will so control this draught that the fuel shall burn quickly or slowly as one may desire.³

In practice, these principles became an arduous ritual that began in the morning and lasted all day. First, the cook closed the draughts and removed the range top. Then she brushed the ashes and cinders into the grate and recovered the top of the range. She then dumped the grate (in fancier models this was a minimal operation involving turning a handle) and waited for the resulting dust to settle. That done, she again removed the top and placed crumpled newspaper and kindling at the bottom of the grate, opened the draughts, and again covered the top. When the fire had well started, she would cover it with coal, adding more as it continued to burn. These stoves required constant tending to avoid adding wood or letting the coals burn white. The fire would burn all night so as to be ready to be stoked to prepare breakfast in the morning. There was no way to differentiate in a coal stove between stove top and oven cooking; the single fire that heated both had to burn if one wanted no more than a cup of tea. Once or twice a week, the fire would be allowed to die out and the stove thoroughly cleaned.⁴ This simple, if detailed, operation had its pitfalls. If the cook did not understand the principles on which the dampers operated, she might leave open the damper to the chimney flue, sending the heat up at the chimney and using up the coal at an unnecessary rate.⁵

Wasting fuel was more likely to worry the head of the household than the cook; she had other vexations with the constant work involved in tending a coal fire. The fire would generally last three to four hours if properly checked; with skillful operation it could last six. A cook might have to tend the fire as often as every ten minutes, which added up to a great deal of her time. In fact, in 1899, Boston's School of Housekeeping found that tending a stove occupied a full hour out of the day. Moreover, hauling the coal and ashes was heavy work, not to mention various other inconveniences. Before manufacturers installed thermometers on their oven doors the cook would have to gauge the temperature more crudely; she would stick her hand in the oven and count until she was compelled to remove it. A count of twenty would do well for a roast. 6

Keeping the stove clean was another duty entirely. The cook would first wash it with soap and water, then rub it well with a stove brush. The body and top of the stove would be rubbed with a rag once or twice a week. The more careful housekeeper would have blacked the tops of the range as well, but not the sides, which would have spread stove-blackening onto the cook's skirts. The more elaborate models of the late 19th century were decorated with nickel trim. To clean this, the housewife applied ammonia whiting and water, then

polished it. Some models had removeable trim to facilitate cleaning. ⁷

The coal stove was more complex than others not only because of the work it entailed. Since a single fire heated the entire apparatus, various cooking elements could be attached on the top or sides without altering the stove's basic operation. Consequently, there was a range of optional elements to be ordered with the stove that could considerably increase the stove's work capacity. Early models contained removeable ash boxes, soot trays, double ovens, warming closets, a separate fire-box and the useful water back, a built-in tank often attached to the side of the stove to heat large quantities of water. Catharine Beecher, "after extensive inquiry and many personal experiments, found a cooking stove constructed on true scientific principles, which unites convenience, comfort, and economy in a remarkable manner." ⁸ Her choice had attachments all over the stove's surface. [Fig. 8] The broiler might be a simple gridiron placed by the heat, or a separate element resembling a cash register that was set on the roaster or next to the range. The roaster could be a separate attachment to turn the meat by the fire, or a separate operation within the oven. [Fig. 9] Finally, in the 1870s, a vertical, uninsulated copper boiler came into use alongside the range. This item evolved into an

addition of considerable complexity, sometimes even placed horizontally above the range. Other possibilities included a hot water tap at the side, and a special ash pan beneath the fire-box. The coal stove had nothing like the standard stove arrangement of today; use and appearance changed from manufacturer to manufacturer, and almost from year to year. ⁹

The most noticeable difference corresponding to the choice between gas and electric stoves today, was between "set" or "portable" ranges. Set ranges were set into the wall with brickwork around three sides, whereas the so-called portable ranges were still virtually immovable, but free-standing. [Figs. 10, 11] Maria Parloa dealt with the question:

Many housekeepers find it difficult to decide which is better ... Each has merits. Less room is required for set ranges; broiling and roasting can be done before the fire, and a constant supply of hot water is insured. But set ranges are rather slow to respond to draughts and checks; they consume a great deal of coal; the hearth becomes hot, and uncomfortable to stand on; and there is but one side of the range to approach, which necessitates the frequent lifting and moving of heavy utensils.

Now, a portable range can be so placed as to permit of one's walking almost around it; it can be used as advantageously as a set range, with about half the same quantity of coal; there is a prompt response to the opening or closing of a draught; one's feet do not get heated by standing near it; there are no dark corners; the need of moving utensils is to a large

extent avoided, and it can be so managed that there shall be a hot oven at any time of the day. But roasting must be done in the oven, and broiling over the coals, and the supply of hot water is limited.¹⁰

In addition, set ranges required a hearth and a chimney breast, while portables could be placed anywhere in the kitchen, whether in a corner or away from the wall entirely.¹¹ One manufacturer of portables reminded buyers that its "first cost is low, as the services of a bricklayer are not required to set it," although it did require placement against a brick flue. "They may be placed upon a brick hearth if desired, but all that is necessary is to protect the floor upon which they stand is heavy sheet zinc or galvanized iron." These arguments should not indicate that the portable was necessarily more desirable; the better cooking qualities of set ranges ensured their use. The B.C. Bibb Company was induced to build the brick-set Susquehanna, "[t]he great popularity of our portable Ranges having created a large demand for a similar Range to build in Brick"¹²

Set ranges were generally larger than their portable counterparts, but differences in appearance among all ranges were striking. A double-oven set range in the mid-1880s, the largest home model, would have been 3 to 3 1/2 feet wide, 1 1/2 to 2 feet deep, and, with elevated ovens or warming closets, 5 to 5 1/2 feet high. Single-oven and portable

models would be smaller accordingly. There were, in addition, various functional elements that influenced the stove's appearance. The doors might open laterally with knobs like regular doors, although in 1898, Stratton and Terstegge offered an oven with doors that opened via a pedal on the floor. Some models had "tea shelves" at about eye level, attached to a high ornamental backing. These round projecting shelves would hold warm teapots. A "fender rail" in front of the firebox protected the cook and her skirts from heat and burns. Finally, the addition of warming closets, usually two side by side and large enough to hold a large dish, could add height to the range if placed above, or could fill in the unused space near the floor.¹³ [Fig. 12]

More purely decorative elements included legs upon which the stove sat and the general lines and decorative details. Whether the stove sat on stubby iron legs about six inches high or had solid skirting to the floor appears to have been a decision of taste. If there was a difference, the skirting was slightly more elegant and desirable, perhaps because it made the range appear more solid. The J.L. Mott Company described one such range as "strong, heavy and durable in its construction, beautiful in its proportions...."¹⁴ An 1893 catalog charged fifty cents extra for skirting over the legs. All ranges with legs sat on a flat plate, of zinc or galvanized metal to protect the floor.¹⁵

The general design and decoration of coal stoves, while following functional requirements, generally reflected popular decorative trends. With the exception of the most progressive and design-oriented models for the wealthy and adventurous, the majority of stoves were made to suit the more conservative middle-class taste of the larger part of the buying public. Accordingly, the decoration borrowed design elements from the most popular styles of the period. Elaborate curves, curls and raised designs were featured on many ranges. Ornamentation in great detail sprouted on oven doors, skirting, pedimented tops and sides, supplemented with gleaming nickel trim.¹⁶ [See fig. 12]

This trend continued through the 1890s, as manufacturers praised such designs as being "striking, bold and attractive." However, not all ranges were necessarily so elaborate. Simpler designs were also available, exhibiting little applied ornament other than logos or names on oven doors. Nevertheless, the ranges that received the most praise from their makers were those that sported such "elegant and thoroughly modern" ornate decoration.¹⁷ Such tastes were in favor throughout the second half of the 19th century. In fact, one explication of stove styling could just as easily suit a crowded and befringed 1890s parlor:

The design of the exterior plates is the work of an accomplished Philadelphia artist; and while it is highly ornate, it is yet so well balanced, appropriate and harmonious, as to be in entire keeping with the surroundings in which it is to be placed and the uses to which it is to be applied. 18

Such designs and their rationale held enough appeal to persist well into the 20th century; that is, while coal stoves remained in use. In 1905 Sears, Roebuck featured models that were as elaborate as any ever produced. 19 Thus, the use and appearance of coal stoves is as characteristically varied as the period in which they were in use.

Section 2: The Gas Stove

The gas stove, considering the remarkable reduction in kitchen labor it offered, came slowly into general use. The preference of cooking over live coals was one cause, although the use of a gas stove was truly revolutionary in its ease and simplicity. Early recognition for its promise came, not surprisingly, in the relatively technical forum of the Scientific American architects' and builders' edition in 1889:

Among the most interesting uses to which gas may be put are for cooking in the kitchen, and at the fireside. The first cost of gas ranges is not half that of good coal ranges. The exact degree of heat required for any special purpose is at once obtained. Since combustion is perfect, there is no smoke or odor, and no flue is required. The certainty of its results, its cleanliness, convenience

and comfort, are obviously in its favor. Any coal stove may be fitted with a burner suitable for burning air gas without smoke or odor.²⁰

Such benefits received further publicity at the World's Columbian Exposition in Chicago in 1893. There visitors saw in the Women's Building a gas stove on which a cook gave demonstrations. The Horticultural Buildings contained a completely gas-equipped house, including cooking apparatus.²¹

The early glimpses of gas stoves must have occasioned much wonder, for operation was almost ridiculously simple. All the cook had to do was light a match, hold it to the jet, and turn the cock. The oven would have a pilot light, which had to be lit first. These operations changed little, even as the stoves themselves became more sophisticated. In 1905, Sears, Roebuck enticed housewives with the ease of merely turning a wheel and lighting a match. The difference between a cock and a knob was merely a mechanical one. Both altered the flow of gas, the former with a flat closure, the latter with a pointed stopper that screwed in or out with a turn of the knob.²²

There were several reasons that kept gas stoves from sweeping the market. Consumers were, not unnaturally, suspicious of gas odors, and many claimed that the resulting food was tainted with the flavor of gas. This problem was worse with the less efficient early gas models. As technology

improved, especially in the early 20th century, means of overcoming the problem found their way beyond trade publications to the fashionable pages of House Beautiful. There, the experts advised,

A generous hood should be placed over the kitchen range and connected with the ventilating flue, or if there is any register in the chimney connect it with that. This will carry the smoke and odors of cooking out of the room. Gas stoves have been improved in recent years, so that the odor no longer fills the kitchen as formerly, but such a range should be placed so that all possible odors can be carried up under the range hood.²³

To overcome the suspicions of fumes and contamination, manufacturers marshalled a host of selling points for gas ranges, most focusing on the ease and cleanliness of their product. The Detroit Stove Works, manufacturers of Detroit Jewel Gas Ranges, became one of the premier manufacturers. Their advertising suggestions seize upon the wide range of conveniences. Besides the housewife's obvious "relief at not having to carry in coal," they pointed out that there would be "Less soap and scrubbing...." They directed the housewife to "Strike a match -- that's about all ...," and pointed out that gas ranges made for "quick and noiseless work ... when sickness comes." Finally, they proclaimed the relentless force of progress by chiding coal stove users with the thought that "Grandmother's way is no longer popular."²⁴

Gas was not uniformly available throughout the period. Especially in early years, only urban centers large enough to support a gas manufacturing plant had the option of this fuel. Even when it was available, many housewives added a gas range to their kitchens without discarding the coal stove, preferring coal for cold-weather cooking. [Fig. 13] Once having adopted gas, homemakers had a host of convenient options. Since the stove apparatus was no longer dependent on a single firebox, the oven became independent and removable from the range. The ranges themselves sometimes shrank to simple "rangettes" of two or three burners on a stand. Such features as a "simmering burner", which ensured a low fire before the gas feed became easier to control, enormously simplified cooking processes. 25

The absence of the firebox and the greatly increased flexibility of the elements changed the stove's appearance more than any advance since the introduction of the cast-iron stove. First, it made possible skeleton-frame ranges with no oven, just a few burners on iron legs that resembled the early treadle sewing machines. More commonly, since most families required an oven, the space below was filled in. The gas pipes would be outside the stove, one running along the front by the range controls, another along the side to the gas cock for the oven.²⁶ [Fig. 14]

The gas stove soon acquired at least as many side and top attachments as the coal stove ever had. The housewife might add shelves for stacking dishes at the sides, cantilevered extensions with extra burners on the range top, as well as the familiar water heaters and broilers. These attachments usually appeared on the left side of the range, with a scrolled bracket supporting the water reservoir. Oven doors dropped down instead of swinging laterally. Manufacturers made separate canopies and shelves, which they sold as individual elements. The stove top as well acquired a new look with the advent of gas. The Detroit Stove Works advertised "one piece, star-shaped, removeable, non-leaking burners" Star-shaped burners were common, in contrast with the modern circular style. A useful option was a single large burner in the front, possibly with a simmering burner in its center. Finally, burner covers came in concentric ring sections, to accomodate various pot sizes.²⁷

The exterior finish for gas stoves underwent a greater change than any other type of stove, reflecting both its flexibility and enduring popularity. The earliest models looked similar to the coal stoves they replaced, but new finishes soon appeared. Detroit Jewel Ranges featured casings of "blue planished steel," and the Sears, Roebuck "Advance" model of 1905 was japanned. The shift from cast iron coincided with the changes in popular fashion after the

turn of the century to produce stoves that appeared lighter, smaller, and more compact, with less applied ornament. The change was not immediate, and elaborately decorated cast-iron legs appeared on gas models until World War I. Nevertheless, porcelain enamel, a harbinger of the future look for gas stoves, had appeared by 1910. At that time, manufacturers applied it only to the top of the range and the splashback area behind. ²⁸ This easier-to-clean surface spread in the 1920s and 1930s to cover the entire stove. The A-B Stove Company displayed a 1931 model that featured "full porcelain enamel, navy with slate-grey grain and Brewster Green trim." Another maker's description shows how radically the gas stove's appearance had evolved to fit new tastes:

Toned in a lasting finish of white porcelain enamel, a combination of gray and white on soft ebonite, the Red Cross Range is a thing of real beauty. ²⁹

Although gas stoves were from the beginning fundamentally different in operation and appearance from coal stoves, they were by no means incompatible. In fact, combination ranges were quite popular for a number of reasons. First, they enabled cooks to use gas in the summer, a vastly more comfortable alternative to running a hot coal stove all day. Conversely, using coal or wood in the winter heated the kitchen as well as cooked the food. Early natural gas supplies were unreliable and sometimes gave out in the coldest

weather, making it wise to have an alternative. Even in the winter, however, gas broiled well and was undeniably quicker to use. ³⁰ Another option was to own two ranges, one for winter and one for summer. In 1902, according to House Beautiful,

Most people nowadays have, beside the coal-range in their kitchen, a smaller cookstove for gas, gasoline or oil, according to their possibilities. This is an act of mercy to the cook in our violent summers, is sometimes a saving, and at all events, is never dearer than using coal all summer. ³¹ [See fig. 13]

The true combination range, in contrast, came in several forms. It might have a gas range top with a coal oven or both coal boiler holes and gas burners side by side. Each worked according to its own arrangements, and trade publications included instructions for their model. One explained that "to operate [the oven], the burner plate is simply turned up, with the cover lifted, for use with gas, ... or down flush with the oven bottom for use with coal."³²

Combination ranges offered the same optional elements as plain coal or gas ranges. These included an oven thermometer and a gas burner in a high warming oven that could be used for baking pastries. The Red Cross Brand proudly came out late in the period with the "Wilcolator Oven Heat Control" for the combination range. It was a labelled temperature control knob available at first only for the elevated baking

oven.³³ In appearance, the combination ranges were similar to single-fuel models, with functional modifications. [Fig. 15]

Throughout the period, gasoline vapor and kerosene oil stoves were available as well, although their use was generally limited to areas where those fuels were most readily purchased. They shared with gas the advantage of eliminating the constant and dirty labor of a coal stove. Oil stoves had a large central burner set upon a stand, above which was a heating surface on which to place pots and pans. Illustrations show the pots crowded together on the heating surface above the narrow burner base. [Fig. 16]

Section 3: The Electric Stove

Electricity for cooking remained a novelty throughout most of the period; it never came into wide use until the 1920s and 30s. The exhibit of electric cookery, contained in an electrified house, at the Columbian Exposition, excited considerable interest and comment. The setup proposed then was unlike our later electric stoves, as it divided range and oven work among separate appliances. Instead of a range, individual electric utensils sat upon a soapstone or metal slab, with a series of cords in a "switchboard" above the slab. To turn them on, one plugged the wire into the utensil and turned the switch. The switch also regulated the heat, with a light glowing above to show how hot it was. The

separate oven was lined with asbestos and wood and had separately controlled heating plates above and below. ³⁴

This seemingly magical system fired the imagination of many who saw it. Although gas was widely available by that time, the use of coal stoves was still general enough to cause women to wish for an easier way.

Anything which will save the carrying up of coal, the carrying down of ashes, the noise and dust and dirt and odor and heat and hard labor and time consumed in attending to fires and getting the desired amount of ... work from them, will do nothing short of revolutionizing the domestic life of the day. ³⁵

This heartfelt cry of 1895 sought an answer with electricity, and the ease of pressing a button or flicking a switch held great appeal. Moreover, various extra conveniences enhanced the basic labor-saving attractions of electrical cookery. Clocks, thermostats, an incandescent light in the oven, and a timer, went far beyond the possibilities of coal or gas at the time. ³⁶

Electricity promised great things for cooking as well. Proponents of electricity held that it was more sanitary and not as dry as cooking with gas. The steadier heat of the oven found particular praise. "Meats particularly are cooked more evenly and in much less time, while retaining a larger percentage of their nutritious and delicious juices." Diffi-

culties in broiling and toasting disappeared with the easily regulated electric utensils.

Some highly artistic effects are possible in the toasting of bread as well as in frying buckwheats, etc., as monograms, borders, the club, restaurant or family name can be done thereon with neatness and despatch.³⁷

These magical possibilities were not to come into common use for quite a while. A 1919 report from Purdue University that sought to promote the use of electricity in cooking lamented its high cost. Estimating that 3 cents/kilowatt-hour was an economical rate, it found that only some parts of the country had rates low enough to encourage further use. They concluded that "electrically heated stoves will be barred from the kitchen of the average family" unless rates for cooking could be lowered.³⁸

To follow the painstaking evolution of these various types of cooking stoves is to realize the complex forces that worked against quick change. First, the uneven availability of different fuels limited widespread changes at any one time. Moreover, the more important the stove was to the running of the household -- and its importance decreased as other machines took over some of its functions -- the less likely would a family be to scrap it for a remarkably different type. Thus the disproportionate space spent here on the different types of stoves reflects their relative popularity

in the period. The appearance of the stove was less significant, reflecting a combination of function and decorative fashions. Families gradually traded custom for convenience, as new technology outstripped the longevity of outmoded types of stoves. The next questions are those of exactly who in the family benefited from such conveniences, and what considerations beyond the stove itself led purchasers to look at new kinds of stoves.

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CHAPTER THREE: The Stove in its Physical Context

In the previous chapters, which focused on the mechanics of the stove itself, the "cooks" and "housewives" mentioned were shadowy figures. It is necessary to pierce this one-dimensionality to understand how largely the stove figured in the daily life of the household. Using the single family home as the average domestic unit still leaves a broad range of questions open. Whether a family employed domestic servants and how much of the kitchen work such servants did were variables that would strongly affect the family's awareness of the modernity of its kitchen. The placement and appearance of the stove within the kitchen introduces issues of style and design that influenced and transcended the appearance of the stove itself. Furthermore, as family units evolved with a changing society, their homes changed and altered the placement and idea of the kitchen itself.

Section One: The Servant Question

The person most concerned with the condition of the stove was naturally the person who cooked on it. If this person was also someone with power of decision in the household, the frequency and selection of a new stove would likely be more important than if a servant alone dealt daily

with the stove's foibles. Moreover, the use of servants was generally associated with the work of larger houses. Domestic servants were never universal, but their employment was an ideal that has persisted as an historical myth. Even in 1880, the heyday of large houses, only 20-25% of urban and suburban households had even one servant; the percentage was even lower in rural areas. Not only was the "traditional" servant scarcer than traditionally believed, but from the end of the 19th century to World War I, the number of servants fell dramatically. Between 1910 and 1920, the number of paid servants per capita fell by half.¹

The household servant was nevertheless a desirable reality for many households in the second half of the 19th century. For those with the means to employ them, life without constant domestic help was unthinkable. "The trials of doing housework in a servantless home were discussed and they were regarded as just that -- trials, necessary chores that had to be got through until a qualified servant could be found."² The size of a stylish house created this situation. One reformer wrote in 1874,

The average house is little else than a string of stairs, with more or less extended landings. The kitchen is underground Up and down, up and down, the women folk are perpetually toiling as on a treadmill Very few American women can endure it, let alone do their household work besides; hence the power of Bridget.³

Taking into account the passage's typical ethnic prejudice, it is still evident that heavy and dirty household tasks were considered unsuitable for proper ladies. Hence both fashionable house and apartment plans included servants' quarters. As late as 1902, house planners were advised that "a small kitchen with a separate sitting room is much better than a large kitchen to be used by the servants for all purposes." ⁴ In such cases, it went without saying that kitchen work was the domain of the servants. Charles Francis Osborne's Notes on the Art of House Planning diagrammed the kitchen area as a "servants' private thoroughfare," as opposed to the family areas. ⁵

Most Americans never had the luxury of such elaborate households, and many women, however reluctantly, did their own cooking and cleaning. In the 1860s, Catherine Beecher and Sara Josepha Hale, "editoress" of Godey's Lady's Book, urged women not to use servants even if they had the means. They felt that servants were an undemocratic institution that usurped women's most important work. They were never entirely successful, since even then not all women were inclined to domestic tasks. Many women were nonetheless glad to dispense with the worries of managing servants. As late as 1902, the ambivalence between the desire to live stylishly with servants and the reality of economic circumstance surfaced in

the counsels of House Beautiful. In describing their ideal kitchen, the writer supposed "a family of slender means; [where] the wife probably does the cooking but neither dines nor sits in the kitchen." ⁶

Stove manufacturers knew that the range of their customers was wide. An 1887 household instruction book advised the "housekeeper" how to acquaint herself with a new range. Even ladies of fashion who rarely touched a stove were expected to retain some familiarity with and control over their kitchens. ⁷ Sensible stove marketers took all customers into account, even when they assumed the presence of a cook. The Philadelphia Stove and Iron Foundry Company postulated three parties interested in each stove:

The tired cook asks: "Will it make my labor lighter?" The man who pays the bills asks: "Will it save my coal?" The careful housekeeper asks: "Will it do good cooking?" ⁸

Although households without employed cooks existed throughout the period, their numbers increased, slowly at first and quickly at the end of the century, through a combination of technological innovation and social changes. Ruth Schwartz Cowan sees a "dynamic interaction" between them, with neither as the primary cause. The result for the middle-class family, with new appliances ready to lighten the housewife's load and fewer satisfactory servants available,

was the trend toward the self-sufficient modern nuclear family. 9

We have already seen the enormous reduction in work that gas and electric ranges produced. When servants were still the ambition of most households, advocates of technological progress in stoves argued to persuade even those who would rarely cook. A guidebook to the Columbian Exposition praised electrical appliances as saving the housekeeper trouble if her servants left. Gas range manufacturers adopted the same tactic: "Cook left? No matter. Light your gas range and see how easy it is to bake, broil, roast and stew"10

Detroit Jewel Gas Ranges, in their advertising suggestions, sought to attract both types of housewives. "A gas range in your kitchen will give you more leisure time," they told the wife who cooked, but "when the cook leaves, a gas stove is a blessing," was the message for the lady with servants. For ladies having increasing trouble finding cooks, Detroit Jewel advertisers encouraged doing their own cooking. Here they recalled the old distaste for unladylike labor, declaring, "Cooking by gas is more like woman's work." 11

Coinciding with the decrease in the available servant pool, the 1890s witnessed a widespread change in domestic attitudes. For the first time it was fashionable for the lady of the house to be involved in her kitchen work under

the aegis of domestic science or domestic engineering. Educated housewives would employ modern scientific ideas to replace the outmoded servant mentality. Nevertheless, old ideals did not die easily. Magazine ads through World War I addressed their copy to "you", the housewife, but showed servants doing the actual work while housewives managed and supervised. Similarly, the spacious homes of the turn of the century had kitchens planned for use by servants, although the housewife was likely in reality to do most of the work. This ambivalence lasted into the 1920s, when all but the wealthiest abandoned dreams of finding cooks and maids.¹²

Given the confused situation among women who had servants, women who wanted servants, and women who did their own cooking and cleaning, it is difficult to generalize about who most often used the stove. It is safe to say that as ranges became cleaner and easier to use, more housewives did their own work, at least more often than before. The stove became a more civilized occupant of the house, accessible even to the fastidious. Ease of operation and social changes became so closely interrelated that they created a single force for change.

Section Two: Kitchen Design

The kitchen itself reflected the changing amount and type of attention it received from housewives. The design

and arrangement of kitchen furniture and appliances gave cooking stoves their physical context, influencing their use and appearance. Kitchen design was not unique to the turn-of-the-century domestic engineers. Many earlier writers took an interest in efficient and healthful kitchens, with suggestions ranging from appliance selection to utensil arrangement. The American Woman's Home (1869) was the most influential of the earlier housekeeping guides. Written by Catharine Beecher with her sister, Harriet Beecher Stowe, it covered every aspect of home life and management, always encouraging the housewife to do all her own work as efficiently as possible. Their ideal kitchen was divided into two rooms: a 9' x 9' kitchen for food preparation, and a 9' x 7' stove room for cooking and storage, separated from the kitchen by sliding doors. The intent of the separation was to keep heat and smells from the kitchen, especially since the stove contributed to heating the house itself. In this arrangement, the portable stove sat in the center of the wall opposite the sliding doors and on either side were ranges of storage shelves. The kitchen held the sink and food supplies. 13

The minutely detailed directives for this ideal kitchen, specified to the inch, emphasized a practical efficiency that would enable the housewife to complete her chores well and quickly, and go on to the myriad other duties expected of

her. Beecher and Stowe contrast their plan with that of "most large houses, [where] the table furniture, the cooking materials and utensils, the sink, and the eating-room, are at such distances apart, that half the time and strength is employed in walking back and forth to collect and return the articles used. "14

This single-minded approach discounted the old image of the kitchen hearth as a social area. The kitchen as a work area became less important to the family, who came to use it only when necessary. 15 Other writers as well fostered the idea that the kitchen and home must be run seriously and expeditiously to insure a satisfactory home life. Housekeeping was to be a skill, approached with rigor and logic. Eugene C. Gardner wrote in 1874,

If our housekeepers ... will learn their most complicated and responsible profession half as thoroughly as a mechanic learns a single and comparatively simple trade, ... we shall have a domestic reformation that will bring back something of the Eden we have lost. 16

Despite the mildly condescending tone common to male writers on "women's work" in the period, the passage nonetheless expresses the same scientific and thorough approach to kitchen design as the American Woman's Home. Gardner couched his ideas in the form of a series of letters between an architect and a young married man exchanging ideas for a new

house. The husband had

overheard [the teacher who boards with them] explaining to Jane how the cooking-stove is to be in a sort of recess by the chimney, with tin-lined doors to shut it out of sight; the wash-boiler at the opposite side, enclosed in the same way, and having a contrivance overhead to carry off the steam; ... and everything else in the room contrived so it can be shut up or folded out of sight when not in use. 17

Thus the stove, along with the rest of the kitchen, would occupy only as much space and attention as use required. Even the hood over the stove received praise for removing even the olfactory evidence of cooking. Such hoods were valuable for other reasons as well: they helped kettles boil faster by concentrating the heat on the stove and then pulling it up the chimney to cool the kitchen. 18

It is questionable how many kitchen designers actually followed such superlatively efficient plans. Certainly there were few with separate stove rooms. By the 1880s, the large single rooms that The American Woman's Home deplored were featured in all the plans of Shoppell's Modern Houses. The actual size of the kitchen varied with the size of the house, from as small as 7' x 9' to one 14' x 16', the largest single room in the house. 19 Maria Parloa, a popular writer on housekeeping matters, recommended 16' x 16' or 15' x 17' as the optimal compromise between enough room for equipment and

too many steps. Miss Parloa's kitchen included a range, a sink, a dresser with shelves, drawers and cabinets for tableware and utensils, tables and chairs, and a pantry for the refrigerator and food storage. [Fig. 17] She suggested some furnishing details for sanitation and the cook's comfort, as well as flowers on the window sill. Washable hard wood flooring was preferred; if the floor was to be covered, she suggested lignum (linoleum), as tiles "tire the feet." She stressed plenty of light and easily cleaned surfaces, with light-colored walls and tiles (blue and white Dutch) around the range, tables, and sink.²⁰

The 1890s witnessed a much greater variety of suggestions for kitchen design as the idea of "domestic science" turned the kitchen from a basic workplace to a sophisticated laboratory. The popularity of a new semi-scientific rationality made the kitchen the center of interest in pattern books, domestic science texts, and women's magazines, replacing the parlor as the favorite subject for advice. Every article or book on the home reiterated the point that the kitchen was the most important room in the modern house.²¹ The reason for this particular attention was the growing interest in nutrition, sanitation, and related topics. The kitchen as the site of food preparation became the object of an assiduous search to destroy germs. This motive produced major changes in the appearance of both stoves and kitchens

in the years before World War I. The new aesthetic canon became "the beauty of economy." 22

These new progressive kitchens became compact and well-planned, generally occupying about 120 square feet. They included a cabinet with drawers and bins (known as a "Hoosier cabinet"), wooden worktables, a breakfast nook, an enamelled iron or -- in later years -- white porcelain sink and drain-board, an automatic pump for hot and cold running water, a brine- or ammonia-cooled icebox or metal basin, and a gas range with a hood. By 1910, the pantry had evolved into built-in cabinets. 23 The simply efficient kitchen of earlier years became a center of operations whose "legitimate function" was "merely [that of] a workroom." The flowers and plants that Maria Parloa had suggested twenty years before had little place in this environment. Despite the general economy of approach, the enthusiasm for outfitting the new kitchen could give it unwonted size. The house magazine Indoors and Out recommended in 1906 a kitchen 17' x 19'6" -- almost 325 square feet -- while stating, "a large kitchen is not at all necessary or desirable." 24 On the whole, however, compactness was the key. House Beautiful told its readers in 1902 that the modern cook wanted

a small, spotless space, conveniently planned, with the tools of her occupation all in easy reach -- something on the lines of a Pullman-car kitchen, or a yacht's galley, or a laboratory" 25

Within these remarkably new kitchens, the cooking stove naturally came in for its share of reforms. The urge for economy and cleanliness prompted smooth finishes and rounded corners to avoid attracting dust. Improvements in technology made possible the combination range, although House Beautiful in 1906 assumed that the preferred arrangement was two ranges, one coal and one gas, depending on the season.²⁶ Continual adjustments were suggested for the cook's comfort, especially as more women of means came to do their own cooking. One writer in 1911 advised,

The stove should be high enough that the oven can be opened and closed without stooping to an unusual degree. The top of the stove should be on a level with the waist, and the oven as high up as possible. A low stove should be placed on a concrete base raised to a sufficient height to overcome its defect in this respect.²⁷

The placement of the stove or stoves within the kitchen did not alter greatly in this period, although the accoutrements for ornament and comfort did increase. The coal and gas ranges would "both [be] set on a spacious hearth of red English quarries. These occupy the center of one wall," while "in front of the range and the table, to ease the cook's feet, are laid strips of cork carpet" Another article suggested practically that the chimney location would determine the placement of the range. To reduce odors, it

recommended a hood over both ranges or "a register ... in the chimney near the ceiling which connects with the ventilating flue." The latter was an iron smoke pipe in a brick flue, the space between the two serving as a ventilating shaft. Some placement suggestions were more specific, usually for the cook's convenience. An article on "Scientifically Designed Kitchens" advised centering the range on the wall adjoining the dining room, near the dining room or butler's pantry door. 28

The most influential force upon the appearance of stoves and kitchens was the drive for absolute cleanliness. House Beautiful declared in 1902 that the kitchen really should be "clean with the scientific cleanliness of a surgery, which we all know to be far ahead of any mere housewifely neatness." Such a goal inspired a great use of white tile and enamel, although the range itself generally remained black while coal stoves were current. Nevertheless, manufacturers advertised stoves with easily removeable parts, "making it possible to keep the interior of the oven clean at all times." 29 The mania for sanitation had a greater effect on external appearances all over the kitchen. Walls were painted in light yellows and greens of shiny oil-based enamels, or were covered in washable tiles, enameled sheet metal, or light oilcloth. 30 [Fig. 18]

Despite fashionable variations, white was the key element in these kitchens, "the sign of visible sanitary awareness." Its attraction was twofold: first because of its popular scientific associations, second because of its radical rejection of traditional kitchens filled with heat, smoke and odor. Kitchen reformers raved over the new levels of sanitation that white signified. One recommended design spoke of pots and pans

of the finest white granite-ware kept in their special closets, and this, like the king's daughter of the Psalms, "is all glorious within" with hard white enamel, easy to keep clean, and presenting an immaculacy inviting in anything that has to do with eatables. ³¹

Even the least health-conscious cook was probably not immune to the rising contrast with "the black beast of her despair", the metal stove. While white porcelain enamel had begun to creep over the American kitchen, the last holdout of tradition was the stove. Its dark appearance was so ingrained in the minds of its users that it did not become a design element in the "light kitchen" until well into the 1920s and 1930s. One woman, writing in 1902, reported with vast amusement,

In what might be called "a freak kitchen" the woodwork and furniture were stained black, to harmonize, the owner solemnly declared, with the iron stove. ³²

It need not be imagined that such kitchens were uniformly stark white. In addition to the light greens and yellows already mentioned, stylish kitchens benefited from the Arts and Crafts movement with touches of earth colors and natural materials. One model described in a 1906 magazine featured buff-color glazed tiles on the walls and ceiling, with a floor of dull red tile bordered with white marble. With the unquestioned presence of dark coal and gas stoves, the designers held that the tile colors gave the room "a homelike air quite different from the laboratory or hospital appearance of a white tiled room." ³³ [Fig. 19] Such materials were generally beyond the reach of the middle-class housewife, and the love affair with white in the kitchen persisted long beyond the echoes of other decorative trends. Nevertheless, even the stove manufacturers recognized the new decorative possibilities of enamel finishes, and after World War I it was possible to buy a stove described as "paneled mission style with pearl grey enamel and brilliant black touches with sparkling nickel castings"³⁴ Thus even the most tradition-bound element of the kitchen was rethought in the early years of the 20th century.

Section Three: The Kitchen in the House

Unique as it was, the kitchen was never isolated from the changes of the home itself. New fashions of size, de-

sign, and plan affected the size and therefore the contents of the American kitchen. In this period the home ran the gamut from rambling houses of even four or five stories to small flats. In the large Victorian house with the luxury of size and easy room arrangement the kitchen would generally be in a back corner of the house. [Fig. 20] The heat generated by wood and coal stoves burning all day was sufficient, especially in summer, to discourage a central location. The large work area, often shared by several women, was segregated from the rest of the house to allow easy movement for elaborate food preparation and plenty of storage space, including a separate pantry. ³⁵

After the Civil War, suburban homes grew in popularity with the increasing congestion of cities. Such homes retained the antebellum appeal of wealth and independence, but were now aimed at the growing middle class. The proliferation of electric streetcars made access to the suburbs possible. In the new towns, large houses held sway, but were quite close to each other, sharing the new amenities of public utilities and standardizing equipment and appliances. Magazines such as Godey's Lady's Book featured house plans to suit families of various sizes. A house "for a small family" had a separate kitchen, 12' x 10'2", attached at the back. Larger houses had kitchens as large as 16' x 20', always in the back corner, for designs described variously as "in the

French style" (1866), "in the English Gothic style" (1872), or an "Italian ... suburban residence" (1872) with the kitchen between the scullery and dining room. The dining room naturally accompanied the kitchen, and designers developed various barriers between the hot, odoriferous work-filled kitchen, and the cultivated privacy of the dining room. As E.C. Gardner explained, "we do not like, in the summer weather, to be broiled in the same heat that roasts our beef" ³⁶ At the same time, convenience required that the pantry and larder be close at hand.

By the turn of the century, homes tended to be somewhat smaller and simpler. Accordingly, kitchens became smaller and more compact, but not without protests and compromise from builders and housewives accustomed to the roomiest expanses they could afford. The craze for efficiency had not yet converted most kitchens to minimal galleys. Designers recognized the trend to smaller kitchens and reorganized their plans. They relegated elements like servants' sitting rooms, tubs and boilers to the basement, and left only essentials to the kitchen. Despite this easy adaptability, some housewives still desired large, old-fashioned kitchens. Progressive designers despaired over this tendency. George E. Walsh wrote in "Scientifically Designed Kitchens" in 1911:

The American kitchen of to-day is only from one-half to three-quarters as large as it was a decade ago, yet it contains even greater facilities for the work transacted in it ... yet architects frequently have to argue long to dissuade women from having a "huge kitchen" that would occupy one-third of the ground floor area.³⁷

As the idea of small houses and kitchens became more generally accepted, stove manufacturers responded with special models to fit into kitchens with limited space.

The growth of urban living spurred these changes in the house. Even in earlier years, houses on smaller city lots had kitchens in the basement. In the country, they would have been in a separate wing or "summer kitchen" to isolate heat and smells. Urban basement kitchens were also handier for receiving fuel, such as coal, which could be shoveled down a chute from the street or alley. As land became scarcer, lots grew smaller, and with them homes and kitchens, so that "the actual space to be occupied by a range [became] a question of considerable importance." The Sill Stove Works of Rochester, New York manufactured a "City Style" range with a "Patent Lift-Hearth" that did not require additional space when open, and could be "set up snugly in a corner." ³⁸

As cities became ever more crowded, merely reducing house size and squeezing the kitchen was not an adequate solution. Various experimental and short-lived alternatives developed for working women to ease their kitchen responsi-

bilities. From the 1880s through the early 20th century, organizations formed to make and deliver cooked meals to working families. They emphasized both reduced work and improved nutrition, and later ones sought to avoid waste and inefficiency. All these ventures were relatively short-lived, and at best they could serve only a few families with success. It soon became clear that traditional houses with traditional housewives could not work for the growing number of city dwellers. An article in Scribner's Monthly as early as 1874 voiced concern that worthy citizens,

unable to find [in New York City] the shelter they require for the money they can afford to pay, ... plant their families elsewhere, depriving them and themselves of the privileges of recreation, social life and culture which concentration makes possible, and the city of their social and political presence, which it sorely needs. 39

The exciting and revolutionary solution to such problems seemed to be the apartment house. Apartments first emerged in the 1850s in limited numbers, and gained greatly in popularity in the last quarter of the 19th century. Americans did not quite know what to make of the new phenomenon. At first they were called "French flats," in recognition of their European origins. The sensible efficiency of their use in cities had a hard time overcoming connotations of European decadence. The idea of having the bedrooms on the same floor

as the public spaces seemed shockingly communistic and promiscuous to the middle-class American mind. After the Civil War, the term "apartment-hotel" came into use as the early examples included many of the luxurious amenities of a hotel. The Hotel Pelham, built in Boston by Arthur Gilman in 1855, was the first, followed by R.M. Hunt's Stuyvesant Flats in 1869 in New York. These fashionable buildings began a trend, and by 1876 New York had two hundred apartment buildings. In Chicago, 1,142 were built in the year after the devastating 1871 fire. ⁴⁰

As the new style proliferated and developed variations, names such as "family hotel" and "residential hotel" appeared to cover the possibilities from studios and bed-sitting rooms to much larger suites. Idealistic proponents of apartment housing sometimes had much more specific views on the best kind of apartment. One lamented to see fine houses standing empty while city dwellers sought vainly for more manageable housing. He suggested, "apartments containing the required number of rooms and no more, grouped for easy and economical housekeeping, and shielded from undue publicity." E.C. Gardner recommended flats as the best system for urban living. "Even the fourth story in such a building is preferable to a house of eight or ten rooms, two on each floor."⁴¹ Nevertheless, not all the early efforts were so admirable. Scribner's complained of "sham elegance and general incon-

venience ... marble mantles and much paint vainly trying to atone for the absence of ventilation, and the too abundant presence of dark rooms, narrow passages, and back-breaking stairs." 42

On the other hand, many apartment houses featured luxurious and truly novel communal features, including communal servants and dining rooms. Some Americans balked at the idea -- the Architectural Record criticized the rejection of home values and organization, which deprived women of traditional tasks. In exchange, apartments offered a concerted community life both within the building and as part of the city. With efficient planning, each unit in a fashionable apartment could have access to courtyards, gardens, cafes, central gas lighting, central hot water heat, bathrooms, hot and cold running water, elevators, switchboards, and even electric light. 43

The question of common food preparation and dining entailed controversy well beyond the lure of modern conveniences. For the first time, there was a practical alternative to daily cooking for those without money for domestic servants. The options included the complete offerings of the Haight House in New York, which featured a public kitchen and dining room in addition to the dining room, butler's pantry, and kitchen in each apartment. Some advocated removing the

kitchen from the living quarters entirely as an aid to people of moderate means, to save space, and to improve sanitation. Elaborate variations on the dumbwaiter would convey meals to each apartment. The main kitchen would, as in a house, be in the basement. ⁴⁴ Such schemes held appeal for many reasons. In Henry B. Fuller's novel The Cliff-Dwellers (1893) a young couple moves to such a building at the wife's insistence, after her husband had confronted her "essential slightness and incapacity." Their flat had four or five rooms and facilities for fixing breakfast, and "they could breakfast and dine with a few hundred persons of like requirements and like situation," in the common dining room. Their new quarters without a kitchen or dining room were "a shade more compact and ... a shade more luxurious," than their previous house. ⁴⁵

However convenient such an arrangement might have been for the middle class, it was not widespread. After the wealthy had taken the daring edge of novelty off "French flats", more self-contained apartments oriented to the middle class became popular at the end of the 19th century. Each unit would have a small kitchen with all the normal appliances, including stove and refrigerator. The luxurious apartments of the wealthy allotted ample kitchen space for the servants' work. Room arrangement in general was often somewhat uncomfortable, as most pre-World War I apartments

had long, dark hallways, with rooms along the passage. Kitchens could well be remote from both the dining room and the service entrance, compensating for the saving in vertical steps. The size of the kitchen itself could be anywhere from 15' x 19' with a butler's pantry in the most elegant buildings to much smaller areas that merely fit into the floor plan. In 1911, George E. Walsh described the new popularity of spacious kitchens as "a revolt from the pantry-like kitchens so common in apartments"⁴⁶

Stove manufacturers noted the new variety in kitchen size and placement, and included models suited to the most cramped apartments. The J.L. Mott Iron Works in 1882 featured a single oven elevated range only 2'2" wide and 1'5" deep, which they considered "peculiarly adapted for use in French Flats, the style of houses now so popular in our large cities." They also described a portable model that made "a very complete cooking apparatus for family use in Flats and Apartments where it is not practical to build a chimney breast."⁴⁷ The height and central systems of apartment buildings made gas preferable to coal for stove fuel. Gas did not require hauling, ash disposal, or complicated smoke ventilation. Some more elegant apartment plans indicated a gas range alone in the kitchen.⁴⁸

Not all apartments had such pleasant appointments. While French flats became the rage for the urban rich, the poor crowded into tenement housing. It is important to remember that the term "tenement" did not differ much in meaning from "apartment" in the 19th century. As conditions for the urban poor worsened with the influx of Eastern European immigrants late in the century, the term became perjorative. At any rate, the tenement kitchen shrank over the 19th century, from the antebellum double tenement to the railroad tenement to the infamous dumbbell. These rooms served the family for "bathing, cooking, eating, washing, studying, and socializing."⁴⁹ [Fig. 21]

Thus the kitchen stove, one of the few common possessions of rich and poor, was infinitely adaptable to its situation. As a vital, however unobtrusive, element of every household, it was affected by both social and aesthetic changes around it. As servants disappeared, interior fashions changed, and families and their homes shrank and moved, stove manufacturers made sure that their products kept pace.

NOTES TO CHAPTER THREE

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CHAPTER FOUR: Marketing the Cookstove

Stove manufacturers must contact their customers effectively to sell stoves in a competitive market, but this simple premise leaves much unexplained. Since cooking stoves are virtually a fixture in a house, although one that can wear out or become outmoded, the manufacturer is obliged to advertise to both the dealer and the consumer. The relative importance of each and the ways in which they were reached reflect changes in the family, the home, and the stove itself. This chapter will investigate what Ruth Schwartz Cowan calls "the role of the advertiser as connecting link between social change and technological change." ¹

The advertiser of a product was not a single person or even a single company. Advertising resulted from the concerted efforts of the manufacturer, the advertising agent, and the medium of communication. Of these, the last was generally limited to trade catalogs, newspapers, magazines, trade cards and other advertising ephemera. Trade catalogs, published by the manufacturer primarily for dealers, were the most complete source of information for the purchaser. These catalogs included illustrations and descriptions of all current models, dimensions, installation information, and often information on how the stove worked, its patented features,

and any other inducements to purchase. Virtually every cooking stove manufacturer also made heaters, parlor stoves, and boilers; some included furnaces and kitchen implements as well.

Trade cards contained more pure advertisement and less information. Often displaying little more than the company name and logo, these postcard-sized cards were decorative and kept the manufacturer's name in a prominent place. Besides the amusing or arresting cartoons, some cards listed prices or touted special features. [Fig. 22]

Magazine advertisements could not carry as much information as trade catalogs, but they reached a wider audience. In the period covered by this study, the science of advertising grew from tentative experimental ventures to large-scale battles for recognition and sales. At mid-century, producers communicated their wares mainly to retailers, who seldom advertised specific brands. However, advertising increased threefold between the Civil War and 1880, with the enormous growth of American manufacturing. The growth of steel and fuel industries in turn spurred stove manufacture and sales. The size of the actual advertisements grew as well. After this time, heavy brand advertising established itself, and with this trend came the necessity to differentiate products with such features as patented ash grates on coal stoves.

The prominent and decorative display of names on the stoves served much the same purpose. ²

The J.L. Mott Iron Works, Garland Stoves, and Bay State Ranges were some of the earliest stove makers to take advantage of magazines. ³ Naturally, different periodicals could have vastly different audiences, and cookstove ads generally appeared in publications aimed at housewives or architects and builders, such as the Ladies Home Journal, Godey's Lady's Book, the Scientific American architects' and builders' edition, and others. The women's magazines carried standard stove ads, generally with a picture and short description of that brand's virtues, including materials, such as "Bessemer Steel Plate Ovens and Bodies"; honors, such as World's Fair Prizes; and prices.⁴ As a rule, advertising in such magazines ran more to small fashion and housekeeping items that women were more likely to buy for themselves, such as food, patent medicines, needles, corsets, soaps, utensils, and seeds. The more expensive items advertised included sewing machines, typewriters, pianos, and heaters. Stove accessories, such as Rising Sun stove polish and the Alaska stove lifter to remove lids of boiler holes from hot coal stoves, also appeared.

These items, for household management and cultivated leisure, reflect an audience of middle-class women with some familiarity with kitchen work. The stove ads in periodicals

such as The Philadelphia Real Estate Record and Builders' Guide reached a far different readership that included builders, contractors, architects, and even men planning to build houses. There the stove ads mingled with those for building materials and other fixtures. [Fig. 23]

The many avenues for advertising cookstoves reflected the dealers, builders, architects, homeowners and housewives concerned with their purchase. Builders and architects installed stoves in unfurnished houses, while housewives could have much to say in the selection of a new stove. Advertising strategies took this wide audience into consideration, aiming inducements at all these parties in turn.

Much of the information in trade catalogs -- except for general catalogs, like those of Sears, Roebuck -- was intended for the use of dealers. This material included technical information:

Retail dealers in stoves and ranges ... will do well to read this chapter sufficiently to enable them to ascertain what the matter is when a well-constructed range fails to operate as it should. ⁵

Others had introductions addressed specifically "To the Trade" or included lists of telegraph codes for ordering merchandise. The Mt. Penn Stove Works described their 1903 "Esther" model as, among other virtues, "Under one name. Easy for the dealer to advertise. Profitable to handle." ⁶

The Detroit Stove Works provided in their catalog sample lithographs of ads to promote gas stoves. The ads were available to the dealers for their use. [Fig. 24]

The final purchaser was not necessarily imagined to be the householder. Architects and builders often selected and installed cookstoves, especially if they were large and heavy, integrated with chimneys and ventilation systems, or (for brick-set coal models) required special installation. The J.L. Mott Iron Works catalog noted they "would particularly call the attention of Architects and Builders to ..." the ease of installation.⁷ Installation was a perennial problem in the case of brick-set coal stoves, which demanded the building of a chimney breast. In consequence, any advertisement for portable stoves, especially in builders' magazines, always mentioned the absence of extra brickwork. An ad appeared in the Scientific American architects' and builders' edition for one stove whose manufacturer attempted to minimize the work involved. "It requires no brick work except the jambs, all the flues being in the body of the range. Therefore it can be set by any bricklayer."⁸

Naturally, no manufacturer dared to neglect the final purchaser. To keep him always in mind, many trade catalogs addressed their prose to the householder as well as the intermediaries. Some would speak of "your house" or "your

kitchen." Others, such as the Sill Stove Works, made stronger appeals:

You sometimes wonder why breakfast is so long coming on the table or why that "early dinner" was so late that you almost missed a train.⁹

Such tactics addressed the husband unfamiliar with the stove in his house. Other catalogs took notice of the cook herself. The Adams and Westlake Company of Chicago produced a pamphlet entitled, "Every Day Cookery, Table Talk, and Hints for the Laundry." In this pamphlet, they promoted their convertible stoves that used oil, gas, or gasoline.

This is important to the housekeeper, and of equal importance to the dealer: to the former, as any one fuel, for some unforeseen cause, may become too expensive, or for a hundred and one reasons a change may be desired; to the latter, because he can fill from his stock orders for either kind of stove.¹⁰

Sears, Roebuck became masters in the art of appealing to the widest possible range of customers. They declared "whether you are a dealer ... a farmer, a mechanic or a laborer ... [our stove] requires no expert, no experience, you take no chance" They also reminded dealers that the Sears, Roebuck name did not appear on any of their stoves, enabling the dealer to market the product as he wished. ¹¹

The purchasers envisioned by advertisers were generally those in fact as well. Architects did specify ranges in some

cases. A few brands appeared in Sweet's catalogs for their consideration, making mention of installation options. Others made reminders that their brand required the specification of a double flue or other provisions.¹² Magazines that detailed house plans for builders, such as Shoppell's Modern Homes and the Scientific American sometimes showed the position of the range. For coal burning models, the chimney flue dictated the position, while gas stoves required a location near the pipe system. House plans in the 1880s tended to show set coal ranges, while elegant apartment plans of the early 20th century generally featured gas ranges. Many of the house plans noted that the cost of the range, as well as heaters and grates, was excepted from the estimated price of the house, indicating that the range would be selected locally by the builder and could vary considerably in price and refinements. ¹³

As consumers became more aware through advertising of the options available to them, they influenced the choices that builders made. One manufacturer in the early 20th century warned,

the time is rapidly passing by ... when any range that a builder or owner might choose to put into a house would be accepted as satisfactory without further question, on the part of purchaser or tenant. ¹⁴

Thus, encouraged and prodded by advertising, the options in buying and owning a cooking stove had widened remarkably since 1865. Prospective stove purchasers had become part of the new breed of educated consumers, with the stove industry participating fully in the new styles of marketing.

NOTES TO CHAPTER FOUR

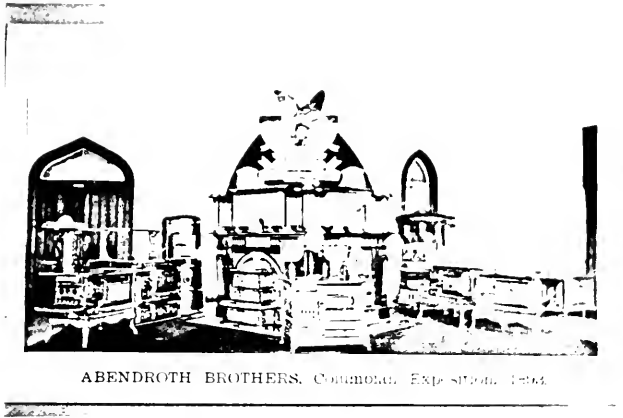
- 1 Ruth Schwartz Cowan, "The 'Industrial Revolution' in the Home: Household Technology and Social Change in the 20th Century," Technology and Culture 17 (January 1976), p. 22.
- 2 David M. Potter, People of Plenty: Economic Abundance and the American Character (Chicago: University of Chicago Press, 1954), pp. 168-69, 172.
- 3 Frank Luther Mott, A History of American Magazines, 1885-1905 5 vols. (Cambridge, MA: The Belknap Press of Harvard University Press, 1957) 4:24.
- 4 Ladies Home Journal XI no. 4 (March 1894), p. 16.
- 5 Littlefield Stove Company, "West Shore Ranges," (Albany, NY: 1892), p. 11.
- 6 Plymouth Iron Foundry, "Illustrated Catalogue of Cooking and Parlor Stoves, Portable Ranges, etc.," (Plymouth, MA: 1874), p. 1; Mt. Penn Stove Works, "Penn Stoves, Ranges and Furnaces," no. 11 (Reading, PA: 1903), p. 5.
- 7 J.L. Mott Iron Works, "Illustrated Catalogue of Kitchen Ranges, Fire Place Heaters and Hot Water Furnaces suitable for All Sizes and Styles of Buildings," (New York: 1882), p. 5.
- 8 Scientific American: Architects' and Builders' Edition 6 no. 6 (December 1888), p. i.
- 9 Sill Stove Works, "The New Sterling Range" (Rochester, NY: 1895), p. 2.
- 10 Adams and Westlake Manufacturing Company, "Every Day Cookery, Table Talk, and Hints for the Laundry" (Chicago: 1884), p. 34.
- 11 Sears, Roebuck and Company, "Book of Stoves" 2nd edition (Chicago: 1905), pp. 622, 625.
- 12 Sweets Indexed Catalogue of Building Construction (New York: The Architectural Record Company, 1906), pp. 553-55; Philadelphia Stove and Iron Foundry Company, "Clover Triumph Ranges" (Philadelphia: n.d.), n.p.

¹³ Shoppell's Modern Houses, I (1886), pp. 52, 99,
105.

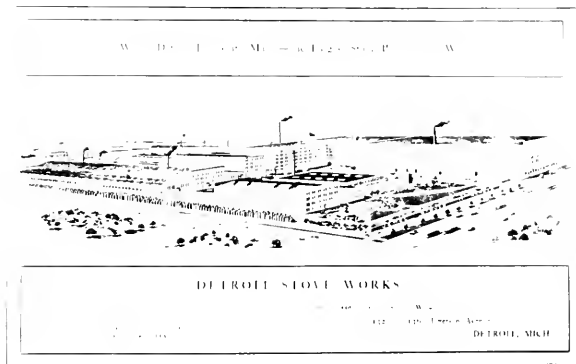
¹⁴ Isaac A. Sheppard & Company, "Perfect Cooking"
(Philadelphia and Baltimore: n.d.), p. 1.

CONCLUSION

The cooking stove offers a good opportunity to examine the many influences at work on the evolution of the American home. By choosing a period between the revolutionary shock of the cookstove's introduction and the swift postwar changes that made the kitchen range an unobtrusive piece of household equipment, it is possible to watch the forces of technology, social change, fashion, and economics play against each other. From the stove's point of view, so to speak, we can watch the American family reshape itself into smaller, more efficient spaces in part because of crucially important items like the stove that evolved in response to society's needs. Thus cooking stoves did not create social change; nor did family needs miraculously produce new technology. Rather, the interaction of the two, viewed in slow motion during this period offers an opportunity to examine both. The slow rate of change in this period, when other technologies progressed so quickly, was a result of practical economics at work in a special environment, the kitchen. Since so many fuel types were available at once, the housekeeper able to choose compromised between newly available convenience and comfort, attachment to trusted methods of cooking, and the prudence of discarding a possibly outmoded but well-built and functioning older stove. Naturally, not everyone made the same decisions, and the resulting miscellany provides a fascinating look at domestic technological evolution.



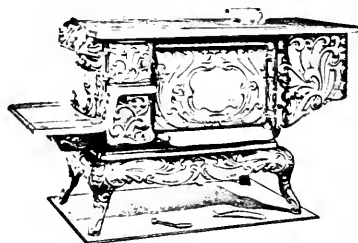
1. Abendroth Brothers trade card
 Warshaw Collection of Business Americana, Smithsonian
 Institution, Washington DC



2. Detroit Jewel Stove Works, 1903
 Athenaeum of Philadelphia, Philadelphia, Pennsylvania



3. Illustration on 1865 Barstow Stove Company bill
 Warsaw Collection of Business Americana, Smithsonian
 Institution, Washington DC



THE SPLENDID ANCHOR.

WITH ENAMELED INSIDE FOR COAL OR WOOD.

Telegraph	No.	Four 7 in. Holes	Size of Hole	Weight	Low	High	Capacity
Base	No. 714	Four 7 in. Holes	10x14x10	135 lbs.	\$10.50	\$10.75	\$17.25
Base	No. 716	Four 7 in. Holes	10x14x10	155 lbs.	55.30	59.75	42.25
Base	No. 718	Four 7 in. Holes	10x14x10	157 lbs.	15.30	40.25	40.75
Base	No. 720	Four 7 in. Holes	10x14x10	161 lbs.	39.30	43.75	44.25
Base	No. 722	Four 7 in. Holes	10x14x10	165 lbs.	39.30	44.25	44.75
Base	No. 724	Four 7 in. Holes	10x14x10	169 lbs.	42.30	47.25	47.75
Base	No. 726	Four 7 in. Holes	10x14x10	173 lbs.	42.30	48.00	49.00

The Splendid Anchor has a large fire in the fire box. It is necessary, simply
 reverse grate and take out end flange. Directions for operating the two dampers
 made necessary for the directions are given on covers of Register.

Plunger (lump) always works in stopping, opening, fire.

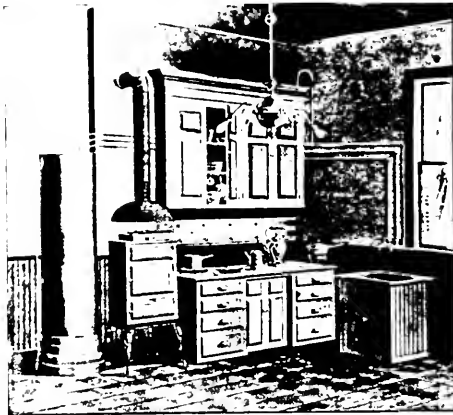
REGISTER IN BOTTOM OF FIRE BOX.

17

4. "Burning Facts," Stratton and Terstegge, 1898
 Athenaeum of Philadelphia, Philadelphia, Pennsylvania



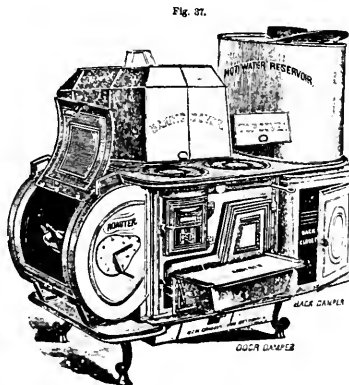
5. "Spear's Gas Burning Cooking Range," 1867
Athenaeum of Philadelphia, Philadelphia, Pennsylvania



6. Electric kitchen at the World's Columbian Exposition, 1893
Siegfried Giedion, Mechanization Takes Command, p. 544



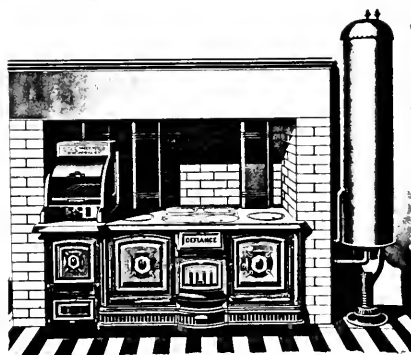
7. Adams and Westlake oil stove with removeable lamps,
1884
Warshaw Collection of Business Americana, Smithsonian
Institution, Washington DC



8. Catharine E. Beecher's ideal coal stove
The American Woman's Home, 1869, p. 74.

MOTT'S DEFIANCE RANGES.

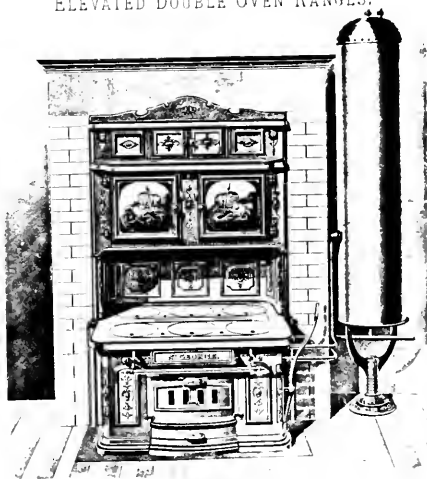
WITH DEFIANCE BROILER AND ROASTER



FIVE SIZES

Size of Fire Place required to suit
 No. 1 and 2, 4 feet 6 inches. No. 3, 5 feet 6 inches. No. 4, 6 feet 6 inches. No. 5, 8 feet 6 inches.

9. Brick-set coal range with broiler and roaster at left
 J.L. Mott Ironworks, 1882
 Athenaeum of Philadelphia, Philadelphia, Pennsylvania

MOTT'S ST. GEORGE
ELEVATED DOUBLE OVEN RANGES.

THREE SIZES

Distances of Fire Places required to suit
 No. 1, 4 feet 6 inches. No. 2, 5 feet 6 inches. No. 3, 6 feet 6 inches.

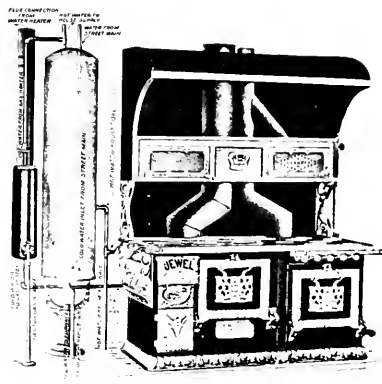
10. Brick-set coal range with elevated double oven
 J.L. Mott Ironworks, 1882
 Athenaeum of Philadelphia, Philadelphia, Pennsylvania



13. 1897 kitchen with coal and gas ranges, by Anne Sievers Schildauer
Susan Strasser, Never Done, p. 48



14. Early gas stove, Henry C. Bowen Company
Warshaw Collection of Business Americana, Smithsonian
Institution, Washington DC



DETROIT JEWEL PREMIER COMBINATION RANGE

No. 22-18 Gas Range, with Oven 18 x 27 x 14, Three Single Burners, One Gas Burner of Double Capacity, One Self-Heating Burner at Top of Range, Two Powerful Oven Burners with Lighter, and a Six-Line Burner in Upper Broiler.

18" x 27" x 14" Gas Range, with Oven 18 x 27 x 14, Three Single Burners, One Gas Burner of Double Capacity, One Self-Heating Burner at Top of Range, Two Powerful Oven Burners with Lighter, and a Six-Line Burner in Upper Broiler. Price \$125.00.

22" x 27" x 14" Gas Range, with Oven 22 x 27 x 14, Four Single Burners, One Gas Burner of Double Capacity, One Self-Heating Burner at Top of Range, Two Powerful Oven Burners with Lighter, and a Six-Line Burner in Upper Broiler. Price \$150.00.

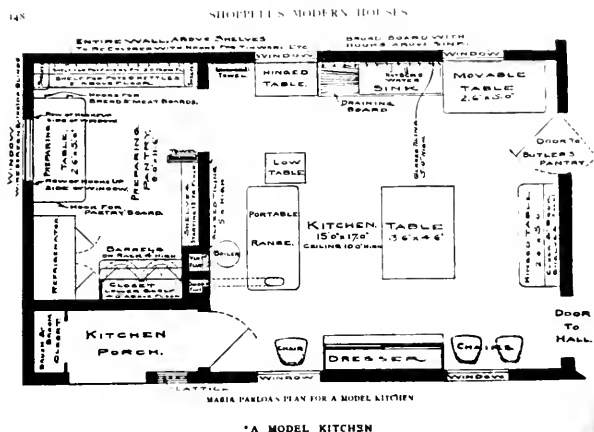
24" x 27" x 14" Gas Range, with Oven 24 x 27 x 14, Five Single Burners, One Gas Burner of Double Capacity, One Self-Heating Burner at Top of Range, Two Powerful Oven Burners with Lighter, and a Six-Line Burner in Upper Broiler. Price \$175.00.

26" x 27" x 14" Gas Range, with Oven 26 x 27 x 14, Six Single Burners, One Gas Burner of Double Capacity, One Self-Heating Burner at Top of Range, Two Powerful Oven Burners with Lighter, and a Six-Line Burner in Upper Broiler. Price \$200.00.

15. Detroit Jewel combination range with sectional view of broiler, 1903
Athenaeum of Philadelphia, Philadelphia, Pennsylvania



16. Florence Oil Stoves trade card
Warshaw Collection of Business Americana, Smithsonian Institution, Washington DC



17. Maria Parloa's model kitchen
Shoppell's Modern Houses, vol 1, 1886, p. 148

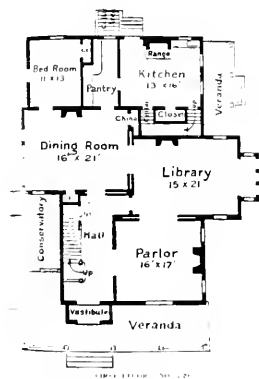


18. White tiled kitchen
House Beautiful, v. 13, December 1902, p. 29

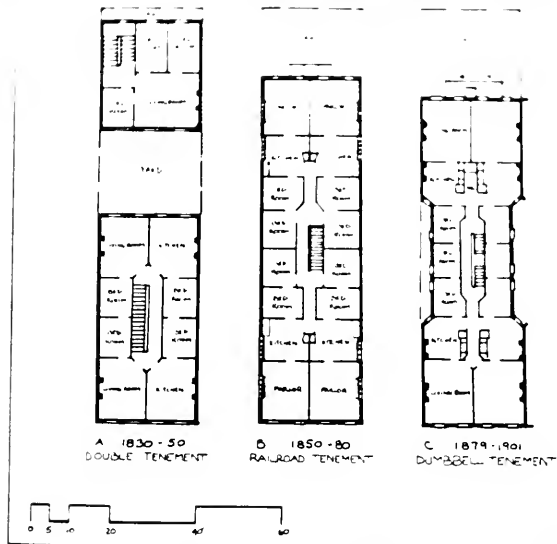


FIG. 5. A Kitchen, 1886.

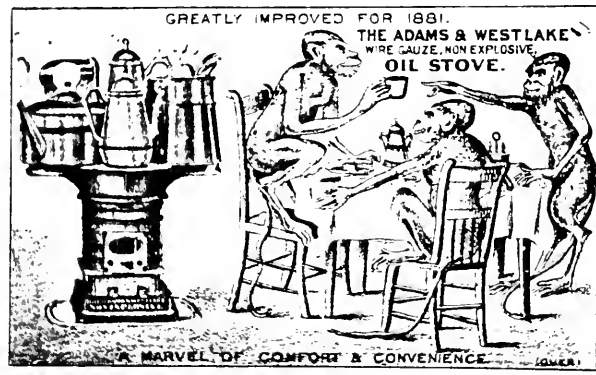
19. Dark tiled and vaulted kitchen
Indoors and Out, v. 1, no. 5 February 1906, p. 220



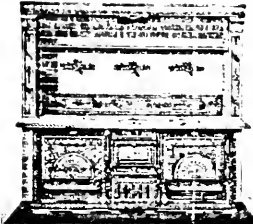
20. Sample house plan, first floor, with kitchen in rear corner
Shoppell's Modern Houses, v. 1, 1886, p. 55



21. 19th-century tenement plans, with progressively smaller kitchens
Gwendolyn Wright, Building the Dream, p. 119



22. Adams and Westlake trade card, 1881
Warshaw Collection of Business Americana, Smithsonian Institution, Washington DC



**Men who Build
HOUSES!**


Need To Buy Ranges

Excelsior Ranges are the best in the market. They are made of the best materials and are built to last. They are also the most economical in the way of fuel. In other words, they are the best investment you can make in your kitchen.

Does it Pay

to put in cheap ranges of no particular reputation when a more reliable in the way of additional expense would provide the

**"Excelsior" or the
"Fidelity" ?**



EXCELSIOR RANGES.

24 Sizes and Varieties.

For 30 years the standard of excellence in Philadelphia, and now better and handsomer than ever. No first class house is complete without one. 25,000 now in use in Philadelphia and vicinity. Ventilated oven, oven door pedals, grates that give perfect control of fire at all times. Single oven, double oven and hot-air ranges at moderate prices. Specify the "Excelsior Ranges" if you want the best. Send to the manufacturers, **Isaac A. Sheppard & Co., 101 N. 2nd St., PHILADELPHIA.**

All responsible Dealers supply them.

for their pamphlet "Perfect Cooking" giving full description

FIDELITY RANGES.

7 and 8 inches. Right and Left Hand.

Just the thing for small houses. No hot work. Flaming reduced to a safe Hot Water in abundance. The best and the best of them claim.

23. Isaac A. Sheppard and Company advertisement
Philadelphia Real Estate Record and Builders' Guide
 v. 5, no. 23, June 11, 1890

DETROIT JEWEL RANGES

Every Advertiser of DETROIT JEWEL GAS RANGES should have and use our No. 242 of
 Single columns or larger also, and No. 243 of single or double columns and
 PLEASE ORDER ELECTRO BY NUMBER

DETROIT JEWEL

 <p>DETROIT JEWEL</p>		
		
		

24. Detroit Jewel suggested advertising lithographs, 1903
 Athenaeum of Philadelphia, Philadelphia, Pennsylvania

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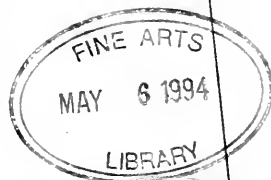
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N/1198/04975/3812X

Fine Arts Library
University of Pennsylvania

Please return this book as soon as you
have finished with it. It must be re-
turned by the latest date stamped below.



W

M-508

3 1198 04975 3812



N/1198/04975/3812X